	Application No.	Applicant(s)
Notice of Allowability	10/796,378	BRILL ET AL.
	Examiner	Art Unit	
	Alford W. Kindred	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *9/8/06*.

2. ☒ The allowed claim(s) is/are *1-2, 5-17, 20-31, 33-37, and 39, renumbered as 1-33*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some*   c)☐ None   of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a)☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1)☐ hereto or 2)☐ to Paper No./Mail Date _____ .

    (b)☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

    Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)
1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____ .

**ALFORD KINDRED
PRIMARY EXAMINER**

EXAMINER'S AMENDMENT/ALLOWANCE

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

2.   Authorization for this examiner's amendment was given in a telephone interview

with Marisa J. Zink on 9/15/06.

3.   The application has been amended as follows:

-Delete --claim 1-- and replace --"1. (Currently Amended) A system that facilitates

determining an intent of a user, comprising:

        a search component that identifies a result set for a user search query; and

        a data store that maintains objects, the data store correlates the objects with queries that

were previously employed to retrieve the objects;

        a user intent·discovery component that determines a set of potential search areas based at

least in part upon the result set of the user search query and results of previous queries; and

        a query relation calculator that determines a level of relatedness between the

user search query and the previous queries, the query relation calculator selects

previous queries to display to the user based at least in part upon the calculated level of

relatedness;

        wherein a level of relation between the previous queries and the user search

query is obtained at least in part by determining distance metrics between the previous

queries and the user search query; and

        wherein the distance metrics are determined by utilizing the algorithm

$\|q,q'\| = 1 - \dfrac{|R[q] \cap R[q']|}{|R[q] \cup R[q']|}$, where $\|q,q'\|$ is a distance metric between the user search query

q and one or more previous queries q', and R is a binary relation on $Q \times D$, wherein Q

is a set of queries previously employed by the search component and *D* is a set of objects within a data store that is searched over by the search component."--

-Delete --claim 4--

-Delete --claim 5--and replace with --"5. (Currently Amended) The system of claim 1 ~~claim 4~~, wherein the level of relation between the previous queries and the user search query is obtained at least in part by utilizing a modified maximal marginal relevance scheme."--

-Delete --claim 17--and replace with --"17. (Currently Amended) A system that facilitates determining user intent, comprising:

a search engine that receives a user search query, the search engine searches over objects within a data store according to the user search query, the objects being associated with queries previously employed to locate the objects; and

a query relation calculator that determines a level of relatedness between the user search query and the previous queries, the query relation calculator selects previous queries to display to the user based at least in part upon the calculated level of relatedness;

wherein the level of relatedness is based at least in part upon distance metrics between the user search query and the previous queries; and

wherein the distance metrics are determined by utilizing the algorithm

$$\|q,q'\| = 1 - \frac{|R[q] \cap R[q']|}{|R[q] \cup R[q']|}, \text{ where } \|q,q'\| \text{ is a distance metric between the user search query}$$

q and one or more previous queries *q'*, and *R* is a binary relation on $Q \times D$, wherein *Q* is a set of queries previously employed by the search engine and *D* is a set of objects within a data store that is searched over by the search engine."--

-Delete –claim 19—

-Delete –claim 20 and replace with --"20. (Currently Amended) The system of

claim 17 ~~19~~, wherein the level of relatedness between the previous queries and the user

search query is obtained at least in part by utilizing a modified maximal marginal

relevance scheme."--

-Delete –claim 31 and replace with --"31. (Currently Amended) A method for
assisting a user search over a plurality of objects, comprising:

receiving a user search query;

searching a data store for objects according to the user search query to create a
user search result set, the objects being associated with queries previously employed to
locate the objects;

reviewing the previously employed queries ~~that were previously employed~~ to
locate one or more objects within the user search result set;

determining a level of relatedness between the user search query and the
previously employed queries, wherein the level of relatedness is based at least in part
upon distance metrics between the user search query and the previously employed
queries, and wherein the distance metrics are determined by utilizing the algorithm

$$\|q,q'\| = 1 - \frac{|R[q] \cap R[q']|}{|R[q] \cup R[q']|},$$ where $\|q,q'\|$ is a distance metric between the user search query

q and one or more previous queries q', and R is a binary relation on $Q \times D$, wherein Q

is a set of queries previously employed by the search engine and D is a set of objects

within a data store that is searched over by the search engine; selecting a query that

was previously employed based upon a calculated level of relatedness between a result

set of the previous query and the user search result set; and displaying the retrieved query. "--

-Delete –claim 33 and replace with --"33. (Currently Amended) The method of claim 31 32, further comprising utilizing a modified maximal marginal relevance scheme to calculate the level of relatedness between the result set of the previous query and the user search result set."--

-Delete –claim 37 and replace with --"37. (Currently Amended) A system that assists a user in connection with searching for objects, comprising:

means for associating objects with queries previously utilized to locate such objects;

means for searching over the objects given a user search query;

means for determining a level of relatedness between the previously utilized queries and the user search query; and

means for displaying previously utilized queries according to the determined level or relatedness, wherein the level of relatedness is determined based at least in part upon distance metrics between the user search query and the previously employed queries, and wherein the distance metrics are determined by utilizing the algorithm

$$\|q,q'\| = 1 - \frac{|R[q] \cap R[q']|}{|R[q] \cup R[q']|},$$ where $\|q,q'\|$ is a distance metric between the user search query

q and one or more previous queries q', and R is a binary relation on $Q \times D$, wherein Q is a set of queries previously employed by the search engine and D is a set of objects within a data store that is searched over by the search engine."--

-Delete –claim 39 and replace with --"39. (Currently Amended) A computer
readable medium having computer executable instructions stored thereon to:

search over a plurality of objects given a user search query, the objects
associated with queries previously employed to locate such objects;

calculate a level of relatedness between the user search query and the
previously employed queries, wherein the level of relatedness is determined based at
least in part upon distance metrics between the user search query and the previously
employed queries, and wherein the distance metrics are determined by utilizing the

algorithm $\|q,q'\| = 1 - \dfrac{|R[q] \cap R[q']|}{|R[q] \cup R[q']|}$, where $\|q,q'\|$ is a distance metric between the user

search query q and one or more previous queries q', and R is a binary relation on

$Q \times D$, wherein Q is a set of queries previously employed by the search engine and D is

a set of objects within a data store that is searched over by the search engine; and

display one or more previous queries according to the calculated level of
relatedness."--

Allowable Subject Matter

4.   The following is an examiner's statement of reasons for allowance: the prior art of

record fails to teach and/or suggest "a search component that identifies a result set for a

user search query; a data store that maintains objects, the data store correlates the

objects with queries that were previously employed . . . a query relation calculator that

determines a level of relatedness . . . wherein a level of relation between the previous

queries and the user search query is obtained . . .", combined "wherein the distance

metrics are determined by utilizing the algorithm . . .".

5.   Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on
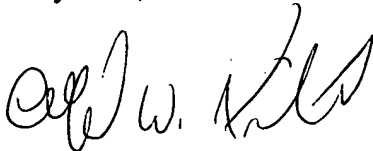
Statement of Reasons for Allowance."

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. US# 20030101286; US# 20020052674; US# 6289353; US#

20030135495; US# 6732088.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Alford W. Kindred whose telephone number is 571-272-

4037. The examiner can normally be reached on Mon-Fri 9:00 am- 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alford W. Kindred
Patent Examiner
Tech Ctr. 2100